Landscape Restoration – K. James 12/13/16

For the No Action Alternative, to be inserted before the climate change section:

Background:

The project area is within a forest allocation of Late Successional Reserve (LSR): this allocation was from the 1994 Record of Decision (ROD) for Amendments to the Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl (commonly referred to as the Northwest Forest Plan (NWFP). The objective for LSRs is to protect and enhance conditions of old growth forest ecosystems which serve as habitat for species associated with old growth, specifically the spotted owl and marbled murrelet.

The second-growth standswithin the project area are currently 40 to 80 year-of-age (OGSI 80) and were primarily generated by past timber harvesting,while the old-growth patches originated from natural disturbances (OGSI 200). The second growth stands contribute to a mosaic of varied stand age classes on the landscape, but do not currently have forest stand structure attributed to stands of old-growth.

No Action Alternative: Restoring old-growth forest conditions within the project area's Late Successional Reserve (LSR) would occur over time through passive management under the No Action alternative. Across the landscape, the second-growth plantations (currently lacking old-growth structure) would age and progress through successional stages toward old growth forest conditions (Haugo et al. 2015). However, a relatively long time period (100 years plus) would be required to achieve the objective of increasing stand diversification, and the functioning amount of old-growth structure within the LSR (LSRA, 2001). Most of the second growth stands within the project area are a result of past timber harvest and do not reflect forest conditions originating from natural disturbances. Therefore those stands are less likely to develop the desired old-growth structure as it currently exists on the landscape. Existing old-growth stands on the landscape are a result of natural disturbance regimes (infrequent-high severity fires wind, insect and disease) and developed under a different climate. Therefore even with current natural disturbances, future stands would be expected to develop on a different trajectory than past stands, resulting in old forests with variations from existing old forests, but with the expectation that old growth forests would contain large diameter old trees, large down wood, large diameter snags, and multilayer canopies of vegetation resulting from disturbances.

The uniform stands established after clearcutting have not developed the desired old forest structure; theylack multilayer canopies with understory vegetation, large trees, large snags and large down wood described infunctioning old-growth forests. Under the No Action alternative, the structural development within dense, uniform stands would have a longertrajectory for developing old forest structure than more open stands. The dense second-growth standswere also re-established often with a dominant tree species which may or may not be well-suited to the site and ecological zone. These stands may be more susceptible to disease or insect infestations than stands with a more diversified species mix and proportion of tree species represented within a stand. With the No Action alternative, the objective of increasing the function and diversity of the LSR would be delayed as second growth stands continue to adjustfrom past management.

Under the No Action alternative, successional diversity across the landscape would be limited and resiliency to natural disturbances and climate change would not be promoted.

Alternative 2

Proposed Action: Restoration thinning as described in the proposed action would return horizontal and vertical spatial heterogeneity to the second growth stands within thelandscape. The type of active management in the proposed action would benefit landscape forest structure by increasing the diversity of successional stages along the continuum of old growth forest development. The proposed action would increase habitat diversity through the growth of native understory plant communities and allowing more sunlight to enter the canopy. In addition, it will accelerate the development of forest structure and species composition by increasing heterogeneity within and among the treated stands. Increasing the diversity of pathways for old-growth forest to develop at the stand level helps to reduce the hard edges of past timber harvests over time as younger stands and older forest patches blend together. Across the landscape, restoration thinning of proposed stands will add multiple trajectories for successional development and response to both disturbances and climate change.

Citation:

Haugo, R., Zanger, C., DeMeo, T., Ringo, C., Shlisky, A., Blankenship, K., Simpson, M., 7 Mellen-McLean, K., Kertis, J. and Stern, M., 2015. A new approach to evaluate forest structure 8 restoration needs across Oregon and Washington, USA. *Forest Ecology and Management*, *335*, 9 pp.37-50.